

General Chemistry I Fall 2009
CHEM 1311

Professor Arthur L Meyer

Office- SAC 1329 / NRG 2219

Office Hours (NRG) M,W 1000-1030a;115-145p // (SAC) T,TH 930a-1030a; noon-1230p

Web Site: www.professormeyer.com

email- ameyer@austincc.edu

COURSE DESCRIPTION

➤ Covers the fundamental facts, laws, principles, theories, and concepts of chemistry necessary for further work in science or science-related subjects. Stresses atomic structure, periodic properties of matter, chemical bonding, and molecular geometry of organic and inorganic molecules, states of matter, stoichiometry, and properties of solutions.

PREREQUISITES

- High school chemistry or the equivalent
- Intermediate algebra (note: College Algebra is required for General Chemistry 2)

REQUIRED TEXTS/MATERIALS

- Chemistry, The Central Science, 11th ed., Brown, LeMay, et. al., 2009
- Calculator- scientific type
- Homework Notebook- separate from your lecture notebook- see format below.

INSTRUCTIONAL METHODOLOGY

➤ Lectures will be presented in PowerPoint format. Class Handouts are posted on the website and are to be printed out in advance of lectures. They contain all of the PowerPoint slides with some of the details and notes missing ... for you to fill in. All in-class practice problems are contained in the Class Handouts.

HOMEWORK

➤ Homework is to be kept in a separate notebook and is to be turned in at the end of the semester for a grade. Bring your homework notebook to my office when seeking help during office hours. See section on how to keep your notebook.

COURSE EVALUATION/GRADING SCHEME

- A=90-100 B=80-89 C=70-79 D=60-69 F<60
- 3 Quizzes = 70%; Final Exam = 25%; Homework = 5%

COURSE POLICIES

- There are no make-up or retest quizzes or exams given
- One quiz grade may be replaced by the grade on the final exam.
- The final exam will be comprehensive, covering all chapters (including reading assignments)
- Failure to take the final exam will result in a grade of "F" assigned for the course.
- Attendance is required (the student is responsible for all announcements made in class.)
- No recording devices allowed, except for documented special needs students
- Shut off all cell phones, beepers, watch chimes. Repeated offenses will have points deducted

COURSE RATIONALE

This course covers the fundamental facts, laws, principles, theories and concepts of chemistry necessary for further work in science or science-related subjects.

COMMON COURSE OBJECTIVES

See <http://www3.austincc.edu/catalog/descchem.htm>

Statement on Scholastic Dishonesty- See Student Handbook/College Catalog -latest edition

Statement on Students with Disabilities- See Student Handbook/College Catalog -latest edition

Statement on Academic Freedom- See Student Handbook/College Catalog -latest edition

Student Discipline Policy- See Student Handbook/College Catalog -latest edition

COURSE OUTLINE/CALENDAR

| <u>Unit</u> | <u>Chapter</u> | <u>Sections</u> | <u>Assignment</u> |
|---------------------------------|----------------|-----------------|--|
| Introduction | 1 | .1-.6 | 11, 15, 16, 19, 20, 24, 25, 28, 31, 32, 35, 43, 44, 46, 49, 53, 54 |
| <hr/> | | | |
| Formulas and Calculations | 2 | .6-.8 | 23, 25, 26, 43, 46, 49, 50, 51, 56, 58, 59, 63-68 |
| | 3 | .3-.5 | 23, 25, 31, 33, 34, 38, 43c, 44c, 45, 51, 52 |
| <hr/> | | | |
| Reaction | 3 | .1,.2,.6,.7 | 11a-c, 13, 51, 52, 57, 63 b-c, 69-74, 77 |
| | 10 | .4,.5 | 54, 56-58 |
| Stoichiometry | 4 | .5,.6 | 61, 63, 65, 69, 74, 80, 88 |
| | 13 | .4 | 51, 52 |
| <hr/> | | | |
| Reactions in Solution | 4 | .1-.4 | 11, 15, 19, 21, 23, 24, 33, 34, 39, 49-52, 54 |
| <hr/> | | | |
| Atomic Structure | 2 | .1-.4 | 1, 3, 7, 9, 16, 17, 27, 31 |
| | 6 | .1-.9 | 10, 11, 15, 18, 24, 31, 35, 38, 49, 50, 60, 61, 64, 66, 67, 82 |
| and the Nucleus | 21 | .1,.2 | 7, 9-13, 17-20 |
| <hr/> | | | |
| Periodicity | 7 | .1-.6 | 11, 23, 25, 27, 28, 41, 44, 48, 51, 83 |
| <hr/> | | | |
| Bonding | 8 | .1-.7 | 7, 11, 12, 15, 19, 21, 30, 32, 34, 36, 37, 40, 46, 49, 52, 54, 62 |
| <hr/> | | | |
| Molecular Structure | 9 | .1-.7 | 15, 18, 21, 22, 31, 32, 35, 36, 47, 48, 54, 55, 60, 63, 76, 79, 96 |
| <hr/> | | | |
| Acid/Base Theory | 16 | .1,.2,.11 | 15-19, 101b-c, 102 b-c |
| <hr/> | | | |
| <i>As Time Permits:</i> | | | |
| Liquids | 11 | .1,.2,.5 | 9, 16a-b, 17a, 46, 49 |
| and Solution | 13 | .4,.5 | 37a, 38a, 39, 43b,d, 47a, 48a, 59, 61a, 63, 64 |
| Properties | 10 | .6 | |

Additional assignments may be announced in class.

Quiz Schedule

All quizzes and final exam are given in class, on the following dates, subject to change.

Quiz 1 September 24

Quiz 2 October 22

Quiz 3 November 19

Final Exam December 10

Homework Notebook

Your homework notebook must be in the following format:

1. The notebook must be bound (no loose leaf notebooks or 3 ring binders!)
2. All pages are to be numbered consecutively (no torn out pages, no additional pages).
3. Each page should be dated and the chapter being worked, indicated.

Hint: I should be able to open your homework notebook to any page and know what chapter the homework is from and the date you worked on the assignment.

Homework FAQ

Why do it?

Homework is done to reinforce concepts, principle and techniques illustrated and discussed in lecture. It's the only way to learn and master the material. It's the only way to pass.

How should I do it?

Homework should be done like taking tests and quizzes- no open notes, closed book. This means you must first learn the material by memorization, studying and understanding class notes, delving into the text to review concepts, practice with in-chapter examples and exercises, go to your professor's office hours for additional help.

When should I do it?

Homework should be done lecture by lecture. Learn the material given in a 75 minute lecture and have the homework done that covers that lecture BEFORE the next lecture.

What should I do?

The day of a lecture find time to go over the notes and read the sections in your text that were covered in the lecture. Be sure that you understand why things are done the way they are done and that you could explain the concepts to someone else.

The next day find time to once again look over the notes. If you really understand what was covered, take out blank sheets of paper, open to the homework that covers yesterday's lecture and try it. Remember, no looking up anything. If you have difficulty and don't feel as though you know what's going on, STOP DOING homework and restudy the notes and text. Go to your professor's office hours for additional help. When you feel that you know the material, go back and try the homework. Repeat as necessary.

Repeat the entire process for the next lecture, etc.

How much time will it take to do this?

About 3 hours of study/homework for each lecture (that's less than 1 hour per day each week)

When can I stop?

When the semester has ended, you can stop doing homework.

Isn't that a lot of work?

It is. This is your education we're talking about. It's not a gift. It's not a privilege. It's not a right. It's something you earn through hard work and dedication.

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